

New Thysanoptera of the Hawaiian Islands

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(Presented by O. H. Swezey at the meeting of September 7, 1933)

This paper includes the description of one new genus, four new species and three known species which have not heretofore been recorded as found in the Hawaiian Islands. The many collections which have been examined since the publication of my former paper in 1928 have included many of the already listed and known species but these records are not included here. I wish to express my appreciation to Messrs. Fullaway, Swezey, Williams, Illingworth, Carter, K. Sakimura, and K. Ito for collections and the interest which they have shown.

TEREBRANTIA

Family THRIPIDAE Uzel, 1895.

Subfamily HELIOTHRIPINAE Karny, 1921.

Hercothrips femoralis Reuter.

Adults, larvae and pupae taken on pineapple, tomato, red beets and other plants in greenhouses on June 27, 1930. K. Sakimura. Manoa, Oahu. Moulton No. 4341.

Subfamily CHIROTHRIPINAE Karny.

Anaphothrips (Anaphothrips) swezeyi Moulton.

Taken on grass March 26, 1929, at Kailua, Oahu, by O. H. Swezey, Moulton No. 3570. Also on *Panicum barbinode* and other grasses, June 8, 1930, by K. Sakimura. Moulton Nos. 4344 and 4345.

Subfamily THRIPINAE Karny, 1921.

STULOTHrips Moulton new genus.

Head wider than long; eyes large, globular with coarse facets; ocelli present in both sexes; interocellar spines long. Prothorax longer and wider than head, without spines at anterior angles, with three spines at each pos-

terior angle, the middle one being somewhat shorter than the others. Abdomen broad, tergites one to six each with a comblike arrangement of setae at sides, posterior margins of seven and eight with complete comb; terminal spines on ninth and tenth segments long and strong. Antenna with eight segments, three and four sub-ovate and with short, stocky, forked sense cones, segment five small and joining broadly with the longer sixth; style as long as segment six, composed of two segments, the first very short, the second approximately five times longer. Legs with tibiae and tarsi unarmed. Wings fully developed in both sexes; fore wing with two longitudinal veins, fore vein almost regularly and hind vein regularly set with spines. Mouth-cone short, maxillary palpus with three segments.

***Stulothrips trespinus* n. sp.**

Female holotype: Dark brown, head and abdomen darker, thorax yellowish brown and with orange pigment; antennal segments brown except three and four which are yellow; all legs yellow; fore wings clear in basal quarter, otherwise brown, hind wings slightly grayish, each with a dark median line extending to near tip; crescents of ocelli deep red; prominent body spines brown.

Total body length 1.4 mm.; head length 0.132 mm., width 0.19 mm.; prothorax length 0.176 mm., width 0.26 mm., pterothorax width 0.35 mm., abdomen width 0.41 mm. Antennal segments length (width) I, 20 (33); II, 30 (30); III, 53 (23); IV, 43 (23); V, 36 (16); VI, 53 (20); VII, 10; VIII, 50; total 300 microns. Length of spines: interocellars 63, on posterior angle of prothorax, outer 76, median 66, inner 90 microns; on ninth and tenth abdominal segments 150 microns.

Male allotype colored as in female but with thorax orange yellow, head and abdomen brown, fifth antennal segment also yellowish in basal half. Total body length 0.95 mm. Depressions on sternites transversely ovate.

Interocellar spines are placed immediately behind anterior ocellus and within the ocellar triangle. This genus *Stulothrips* is especially characterized by having three well developed spines at each posterior angle, the pronotum has many small setae over its surface and four on either side along the posterior margin of which the innermost is longest. Abdominal segments one to six have comblike setae at the sides and a complete comb along the posterior margins of seven and eight. Antennal segment five is relatively small, six much longer, seven exceedingly small and eight about five times longer than seven and almost equal in length to segments three and six. The sense cones on three and four are forked but short and stout. The fore vein of each fore wing has about twenty-two spines more or less regularly placed, the fifteen on the hind vein are placed regularly.

Type material: female holotype, male allotype, four female and eight male paratypes, many larvae and pupae, taken on *lauhala* September 8, 1930. K. Sakimura. Moulton No. 4346. Holotype and allotype in author's collection, paratypes deposited in the collection of the Hawaiian Entomological Society, Honolulu.

Type locality: Hauula, Oahu, Territory of Hawaii.

TUBULIFERA

Family PHLOEOTHRIPIDAE Uzel, 1925.

Subfamily PHLOEOTHRIPINAE Priesner, 1927.

Tribe *Hoplothripini* Priesner, 1927.***Poecilothrips biformis* n. sp.**

Female holotype: Head brown, sides of thorax and abdomen light brown, median portion of thorax and abdomen yellowish brown, tube brownish yellow, darker in basal half. Antennal segments uniformly brown except tip of two and extreme base of three which are yellowish; legs with all femora brown, tibia and tarsi yellow, with tibia shaded light brown at the sides; wings grayish, lighter in the middle giving them the appearance of being somewhat narrowed.

Total body length 1.8 mm.; head length 0.22 mm., width near base 0.176 mm.; prothorax length 0.11 mm., width 0.26 mm.; tube length 0.13 mm., width at base 0.088 mm. Antennal segments length (width) I, 30 (36); II, 43 (33); III, 60 (31); IV, 50 (30); V, 50 (26); VI, 46 (23); VII, 43 (23); VIII, 43, total 360 microns. Length of spines: postoculars 73, on anterior margin of prothorax 60, on anterior angles, midlaterals and on posterior angles 73, on ninth abdominal segment 166, at tip of tube 133 microns.

Sides of head almost parallel or slightly widened posteriorly, eyes globular, ocelli fully developed, mouth cone sharply pointed, postoculars and other prominent body spines transparent and with dilated tips; abdominal segments three to eight each with a dark transverse line at anterior third which is broken in four to six places by white spots shaded brown at the sides; abdominal segments three to seven each with two pairs of well developed wing-holding spines. Antennal segments three to eight each with a pedicel, eight being clearly separated from seven; third segment with two sense cones. Legs slender, fore femora slightly enlarged, tarsi unarmed. Each fore wing with four double fringe hairs.

Female paratype, wingless form: colored as in winged form except that head is lighter, yellowish in the middle and shaded brown at the sides. Total body length 1.8 mm. Eyes very small occupying only anterior border of head at sides of antennae, with only two or three facets in outline; ocelli wanting. Transverse brown lines on abdominal segments three to eight present, wing-holding spines vestigial.

Type material: female holotype and three female paratypes one of which is the wingless form, taken on an old stump March 12, 1929. O. H. Swezey. Moulton No. 3565. One paratype deposited in the collection of the Hawaiian Entomological Society, Honolulu, other types in author's collection.

Type locality: Honolulu, Territory of Hawaii.

The two forms, with and without wings, could easily be mistaken for different species and display an interesting variation which is extremely rare.

Tribe *Haplothripini* Priesner

Haplothrips gowdeyi Franklin.

Syn. ***Haplothrips usitatus*** Bagnall.

Haplothrips gowdeyi was described by Franklin in 1908 from specimens taken in Barbados Islands and Europe. *H. usitatus* was described by Bagnall from specimens taken in the Hawaiian Islands in 1910. This species is one of the most common in the islands and has been taken from many host plants.

Haplothrips (Karnyothrips) melaleuca Bagnall, 1911.

This species was originally found in the Palm House of the Botanical Gardens at Copenhagen, Denmark, and has since been taken on the island of Trinidad near South America. This new finding is especially interesting as Mr. Illingworth reports that it is always taken in the feeding area of red spider on pineapple leaves and believes that it is predaceous on these spiders. (Moulton No. 4059.) Mr. Carter's specimens (Moulton Nos. 4311-4314), were also taken from pineapple leaves.

***Haplothrips (Hindsiana) williamsi* n. sp.**

Female holotype: Head, thorax and tube yellowish brown, abdomen light brownish yellow; antennal segments one and four to eight brown, two and three light brownish yellow; legs yellow; wings light gray.

Total body length (abdomen distended) 1.9 mm.; head length 0.16 mm., width 0.13 mm.; prothorax length 0.10 mm., width 0.18 mm.; tube length 0.10 mm. Antennal segments length (width) I, 23 (26); II, 36 (26); III, 36 (26); IV, 43 (26); V, 43 (23); VI, 36 (20); VII, 36; VIII, 23; total 283 microns. Length of spines: postoculars 40, on anterior angles of prothorax 30, midlaterals 33, on posterior angles, outer 52, inner 40, on ninth abdominal segment 116, at tip of tube 133 microns.

The third antennal segment is short and bears two sense cones, seven and eight are broadly joined; prominent head and body spines have dilated tips; all legs are slender, tarsi are unarmed; fore wings have five or six double fringe hairs.

This species has the general appearance of *H. (Karnyothrips) melaleuca* Bagnall but is easily separated by the unarmed fore tarsi, more compact antennal segments and the uniformly brown coloring of segments four to eight. *H. dodgei* Hood has femora darkened with brown on the outside and the fourth antennal segment lighter than five.

Type material: female holotype and seven female paratypes taken from under bark of "Maba," December 16, 1929. F. X. Williams. Moulton No. 3922. Paratype deposited in the collection

of the Hawaiian Entomological Society, Honolulu, holotype and other paratypes in author's collection.

Type locality: Hualalai, Territory of Hawaii.

Subfamily MEGATHRIPINAE Karny, 1921

Tribe *Megathripini* Priesner, 1927.

Dichaetothrips claripennis n. sp.

Female holotype: Dark brown, with median portions of abdominal segments one to five lighter; fore tibiae brownish yellow, darker at the sides, fore tarsi yellow; third antennal segment brownish yellow, shaded darker toward tip, fourth segment yellowish brown; wings clear.

Total body length 2.8 mm. Head length 0.30 mm., width 0.26 mm.; prothorax length 0.19 mm., width 0.38 mm.; tube length 0.29 mm., width at base 0.10 mm. Antennal segments length (width) I, 26 (40); II, 60 (36); III, 100 (40); IV, 100 (40); V, 83 (33); VI, 60 (33); VII, 50 (26); VIII, 33; total 530 microns. Length of spines: postocellar 50, post-ocular 106; prothorax, at anterior angles 46, on anterior margin 33, mid-laterals 50, on posterior angles, outer 93, inner 93; on ninth abdominal segment 283 and at tip of tube 250 microns. Basal wing spines 56, 66 and 93 microns.

Head 1.25 times longer than wide, broad and flattened in front, cheeks very slightly swollen at the sides and very slightly narrowed at the base; cheek spines minute; third and fourth antennal segments equal, three with two and four with four sense cones; seventh and eighth segments closely joined. Each fore tarsus armed with a stout pointed tooth. Fore wings with seventeen or eighteen double fringe hairs.

Type material: female holotype found on a table, February 5, 1930 (F. X. Williams). Moulton No. 3907. Type in author's collection.

Type locality: Honolulu, Territory of Hawaii.

This species is separated from the other known species by its relatively shorter head and clear wings.

Superfamily UROTHRIPOIDEA Hood, 1915

Family UROTHRIPIDAE Bagnall, 1909.

Stephanothrips occidentalis H. & W.

One specimen taken on *Paspalum orbiculare*, June 16, 1930, at Paumalu, Oahu, by K. Sakimura.